IN THE CLAIMS

Please amend the claims as follows. This listing replaces all prior versions.

1 (Currently amended) A method for the targeted insertion of a nucleotide of interest into a specific chromosomal site within a plant cell, said method comprising the steps of:

(a) providing a plant cell having a heterologous target site on a chromosome thereof, wherein said target site is flanked only on one side by a single recombination site, which single recombination site is recognized by a site-specific recombinase enzyme; and then

(b) transforming said plant cell with an *Agrobacterium* transformation vector carrying a nucleotide sequence of interest, wherein said nucleotide sequence of interest is flanked by a pair of identical recombination sites, one on each side thereof, that correspond to the single recombination site of said target site, so that said nucleotide of interest *(i)* is randomly inserted into a chromosome of said plant cell, *(ii)* generates an excision circle therefrom, and then *(iii)* is inserted into said chromosome at said target site;

wherein said transforming step is carried out in the presence of a site-specific recombinase effective to carry out recombination at said recombination site and insert said nucleotide of interest into said chromosome at said target site.

2-6. (Canceled)

7 (Previously presented) The method of claim 1, wherein said single heterologous target site is inserted into said chromosome by *Agrobacterium*-mediated transformation.

8. (Previously presented) The method of claim 1, wherein said recombinase is an integrase.

9. (Previously presented) The method of claim 1, wherein said recombinase is selected from the group consisting of FLP recombinase, Cre recombinase, and recombinase R.

10. (Previously presented) The method of claim 1, wherein said recombinase is FLP recombinase, and said recombinase sites are FLP recombination target (FRT) sites.

11. (Previously presented) The method of claim 1, wherein said plant cell is a dicot plant cell.

12 (Previously presented) The method of claim 1, wherein said plant cell has a genome size greater than 500 megabases.

13. (Previously presented) The method of claim 1, whereby a first subpopulation of cells in said population of cells is transformed with said *Agrobacterium* transformation vector and a second subpopulation of cells of said population of cells is not transformed with said *Agrobacterium* transformation vector and said transforming step is followed by the steps of:

(c) selecting at least one transformed cell from said first subpopulation of cells; and then

(d) regenerating a plant from said transformed cell of step (c).

14. (Previously presented) The method of claim 13, wherein said selecting step is carried out by contacting said population of cells with an antibiotic and wherein said transforming step is carried out with an *Agrobacterium* transformation vector that carries a selectable marker, which selectable marker imparts resistance to said antibiotic to said transformed cells.

15. (Previously presented) A plant cell produced by the method of claim 1.

16. (Previously presented) A plant produced by the method of claim 1.

17. (Previously presented) Seed produced from the plant of claim 16.

18. (Previously presented) Pollen produced from the plant of claim 16.